



Department of Transportation

National Highway Traffic Safety Administration

[Docket No. NHTSA-2015-0029; Notice 2]

Mercedes-Benz USA LLC, Denial of Petition for  
Decision of Inconsequential Noncompliance

**AGENCY:** National Highway Traffic Safety Administration (NHTSA),  
Department of Transportation (DOT).

**ACTION:** Denial of petition.

**SUMMARY:** Mercedes-Benz USA LLC (MBUSA), on behalf of itself and its parent company Daimler AG (DAG), collectively referred to as "Mercedes" has determined that certain model year (MY) 2015 Mercedes-Benz C-Class (205 Platform) passenger cars do not fully comply with paragraph S10.18.4 of Federal Motor Vehicle Safety Standard (FMVSS) No. 108, *Lamps, Reflective Devices, and Associated Equipment*. Mercedes has filed a report dated February 9, 2015, pursuant to 49 CFR part 573, *Defect and Noncompliance Responsibility and Reports*. Mercedes then petitioned NHTSA under 49 CFR part 556 requesting a decision that the subject noncompliance is inconsequential to motor vehicle safety.

**ADDRESSES:** For further information on this decision contact Mike Cole, Office of Vehicle Safety Compliance, the National Highway Traffic Safety Administration (NHTSA), telephone (202) 366-2334, facsimile (202) 366-5930.

**SUPPLEMENTARY INFORMATION:**

**I. Mercedes' Petition:** Pursuant to 49 U.S.C. 30118(d) and 30120(h) and the rule implementing those provisions at 49 CFR part 556, Mercedes has petitioned for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that this noncompliance is inconsequential to motor vehicle safety.

Notice of receipt of Mercedes' petition was published, with a 30-day public comment period, on April 16, 2015 in the Federal Register (80 FR 20571). No comments were received. To view the petition and all supporting documents, log onto the Federal Docket Management System (FDMS) website at: <http://www.regulations.gov/>. Follow the online search instructions to locate docket number "NHTSA-2015-0029."

**II. Vehicles Involved:** Affected are approximately 9,137 MY 2015 Mercedes-Benz C-Class (205 Platform) passenger cars manufactured from June 18, 2014 through September 5, 2014 at Mercedes' Tuscaloosa, Alabama plant.

**III. Noncompliance:** Mercedes explains that the subject vehicles were manufactured with horizontal adjustment-visually aimed headlamps that have a lower beam and a horizontal adjustment mechanism that was not made inoperative at the factory. Specifically, the horizontal adjustment screw was not properly

sealed off with non-removable sealing caps as necessary to fully meet the requirements of paragraph S10.18.4 of FMVSS No. 108.

**IV. Rule Text:** Paragraph S10.18.4 of FMVSS No. 108 requires in pertinent part:

S10.18.4 *Horizontal adjustment-visually aimed headlamp.* A visually/optically aimable headlamp that has a lower beam must not have a horizontal adjustment mechanism unless such mechanism meets the requirements of this standard for on vehicle aiming as specified in S10.18.8.

**V. Summary of MBUSA's Analyses:** Mercedes stated its belief that the subject noncompliance is inconsequential to motor vehicle safety for the following reasons:

A) Mercedes believes that new manufacturing methods, including the use of optical image processing to adjust the horizontal and the vertical illumination levels of headlamps in addition to the reduction in assembly tolerances for headlamp assemblies, has resulted in optimal headlamp adjustments on vehicles leaving their manufacturing plants. As a result, on-vehicle aiming devices are no longer common in the industry. Mercedes believes that this has led to the elimination of the need for horizontal headlamp adjustment on in-use vehicles. Regarding the subject vehicles, Mercedes says there is generally no need for customers or repair shops to adjust the horizontal aim of headlamps.

- B) Mercedes states that they have only received five customer complaints in the United States, relating to alleged headlamp mis-aiming in the subject vehicles. None of the complaints relate to horizontal mis-aiming of the headlamps. In all instances customers brought their vehicles in for service by Mercedes repair shops, who know how to perform a headlamp readjustment properly, without using the horizontal adjustment screw.
- C) Mercedes states that they provide service instructions to U.S. repair shops that horizontal headlamp adjustment is not permitted and do not even mention that a horizontal headlamp adjustment screw exists. Similarly, the vehicle owner's manual does not include information about performing headlamp illumination adjustment. Thus, since the horizontal headlamp screw's existence is not mentioned in any sales or service instructions or manuals, use of the screw by the customer or repair facilities would be extremely unlikely.
- D) Mercedes also states that even if the screw were to be used, such adjustment would result in only minimal differences in illumination levels compared to the original levels because it provides only a minimal

range of adjustment. Mercedes elaborated by stating that when the horizontal adjustment screw is turned to the far left or far right end-position, only a few measuring points are slightly above or below the FMVSS No. 108 required levels. Specifically, when the horizontal adjustment screw is turned to the maximum left end-position ( $-2.8^{\circ}$ ), only 4 out of 24 measuring points are above (3) or under (1) the required illumination levels. And when the horizontal adjustment screw is turned to the maximum right end-position ( $+3.2^{\circ}$ ), only 2 out of 24 measuring points are under the required illumination levels. Thus, the difference between these worst-case levels and the required minimum or maximum levels are very small. According to Mercedes' headlamp development engineers, a difference of 300 cd [candela] is unlikely to be noticed by a driver and would not affect oncoming traffic or visibility in any material way. In addition, the subject headlamps rely on a reflection-based system which Mercedes' believes leads to less glare than projection-based system.

Mercedes has additionally informed NHTSA that it has corrected the subject noncompliance on vehicles in subsequent

production and that all future vehicles will be in full compliance with FMVSS No. 108.

In summation, Mercedes believes that the described noncompliance of the subject vehicles is inconsequential to motor vehicle safety, and that its petition, to exempt from providing recall notification of noncompliance as required by 49 U.S.C. 30118 and remedying the noncompliance as required by 49 U.S.C. 30120 should be granted.

**NHTSA'S DECISION:**

*NHTSA'S Analysis:* Mercedes states that its service instructions to U.S. repair shops specify that horizontal headlamp adjustment is not permitted and that they do not mention the existence of a horizontal headlamp adjustment screw. Similarly, the vehicle owner's manual does not include information about performing headlamp adjustment. As a result, Mercedes concludes that use of the headlamps horizontal aiming screw by a customer or repair facilities would be extremely unlikely. This argument is not persuasive. As these vehicles get older and fall out of the warranty period, consumers will have more options for servicing than Mercedes dealerships. Further, many states also have vehicle inspection stations that periodically check and adjust headlamp aim and these entities may not be familiar with this headlamp design. Therefore, NHTSA contends that it is possible

that entities not familiar with the subject vehicle's design may use the screw to adjust the horizontal aim.

NHTSA has granted prior inconsequentiality petitions with similar arguments; however, the prior petitions also demonstrated that the horizontal aiming mechanisms were difficult to access (see Bentley Motors, Inc., 76 FR 4744, and General Motors, 71 FR 34415). That is not the case for the Mercedes petition. Because no mention was made of the accessibility of the horizontal aiming mechanism, a NHTSA representative inspected a 2015 Mercedes C-Class and found that a non-sealed horizontal aiming mechanism would be easily accessible, and would likely be the first adjustment screw used to alter the headlamp adjustment by someone unfamiliar with this headlamp design. This is because the horizontal aiming mechanism screw is in plain view, whereas, the required vertical aiming mechanism is out of sight and only accessible through a non-descript hole in the upper radiator support using a long tool.

Mercedes also argued that even if the horizontal aim were adjusted, it would result in only minimal differences in illumination levels that would be unlikely to be noticed by a driver or affect oncoming traffic in any material way. To substantiate its claim, Mercedes provided photometric test data at the extreme right and left adjustment of the horizontal aiming mechanism. (Mercedes did not provide any test data at

intermediate locations of horizontal adjustment) When adjusted to the extreme left position, the initial measured intensity level was 1,035 candela at test point 1U-1.5L which is nearly 48% over the required maximum of 700 candela. Using a  $\frac{1}{4}$  degree reaim, an adjustment permitted by the standard for compliance test purposes, the measured intensity level dropped to 982 candela, but this is still 40% over the required maximum of 700 candela. A NHTSA sponsored study titled "Driver Perception of Just Noticeable Differences of Automotive Signal Lamp Intensities" (DOT HS 808 209, September 1994) demonstrated a change in luminous intensity of 25 percent or less is not noticeable by most drivers and is a reasonable criterion for determining the inconsequentiality of non-compliant signal lamps. The University of Michigan Transportation Research Institute (UMTRI) performed a follow-up study relative to lower beam headlamps titled "Just Noticeable Differences for Low-Beam Headlamp Intensities." (UMTRI-97-4, February 1997) In that report, UMTRI determined that the 25% limit for inconsequential noncompliance determinations was suitable for photometric test points that specified maximum intensities for glare protection. Based on these reports, exceeding the maximum intensity specification by 40% at test point 1U-1.5L, a glare protection point that limits the amount of light into the eyes of oncoming drivers, would be noticeable to other drivers. As explained in



the agency's report, "Nighttime Glare and Driving Performance," (Report to Congress, February 2007) increased glare reduces seeing distance because it causes light to scatter in the eyes, which in turn reduces the contrast of roadway objects. Glare decreases visibility distance, increases reaction times to objects in the roadway, and increases recovery time after the eyes have been exposed to increased glare. All of these factors increase risks during nighttime driving.

*NHTSA'S Decision:* In consideration of the foregoing, NHTSA finds that Mercedes has not met its burden of persuasion that the subject FMVSS No. 108 noncompliance is inconsequential to motor vehicle safety. Accordingly, NHTSA hereby denies Mercedes' petition and Mercedes is consequently obligated to provide notification of, and a free remedy for, that noncompliance under 49 U.S.C. 30118 and 30120.

**Authority:** (49 U.S.C. 30118, 30120: delegations of authority at 49 CFR 1.95 and 501.8)

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Gregory K. Rea  
Associate Administrator  
for Enforcement

**Billing Code:** 4910-59-P

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